FREQUENCY AND INDICATIONS OF CAESAREAN SECTION ALONG WITH COMMON COMPLICATIONS OF SPINAL ANESTHESIA IN DISTRICT RAWALPINDI- A CROSS SECTIONAL STUDY

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ABSTRACT

Objective: To identify the frequency and indications of caesarean section and also the common complications of spinal anesthesia in post caesarean women of district Rawalpindi.
Study Design: A cross sectional study.
Place and Duration of Study: Various hospitals of district Rawalpindi, from Jul 2016 to Jan 2017.
Methodology: This study was done on 400 women after their C-section surgeries under both general anesthesia and epidural anesthesia. Data was collected through a self-structured questionnaire including 15 close ended questions regarding frequency, indications and complications of spinal anesthesia. Analysis was done by using SPSS 21.
Results: Mean age of the women was 24.4 years, 277 (69.0%) patients out of 400 had epidural anesthesia, while 123 (30.8%) patients had general anesthesia. Most common indications of C-section found were multiple previous C-section 108 (27.0%), fetal distress 94 (23.5%), breech position of fetus 45 (11.3%), cephalo-pelvic disproportion (CPD) 40 (10%), pregnancy induced hypertension (PIH) 31 (7.8%), gestational diabetes (GDM) 25 (6.3%), Twins/triplets 15 (3.8%), Cord prolapsed 10 (2.5%), oligohydramnios 8 (2.0%), Polyhydramnios 6 (1.5%), placenta previa 3 (0.8%) and age and Exercise was 0% only. Common complications found were low back pain 73 (18.3%) and difficulty in urination 45 (11.3%)
Conclusion: The frequency of spinal anesthesia in C-section was greater as compared to general anesthesia due to previous caesarean and fetal distress most commonly. Low back pain and difficulty in urination had been reported as common complications after spinal anesthesia

Keywords: Caesarean section, Fetal distress, General anesthesia, spinal anesthesia, low back pain

INTRODUCTION

A cesarean section is the mode of delivery done by giving three types of anesthesia i.e. Spinal anesthesia, epidural anesthesia and general anesthesia. There are many indications to have C-section such as multiple pregnancies, HIV infection in the mother, previous C-sections, past surgery on the uterus, active genital herpes infection, developmental problems, such as hydrocephalus or spina bifida, severe illness, such as heart disease, preeclampsia or eclampsia, large uterine fibroids near the cervix, transverse or breech position of the baby, cephalopelvic disproportion, prolong labors, infection or fever during labor, placenta previa, placenta abruption, umbilical cord prolapsed[1]. Certain complications may occur such as bladder or uterus infection, injury of urinary tract, increase blood loss. C-section may also cause Placenta previa, placenta accreta, uterine rupture, hemorrhage, problems in future pregnancies[2].

The average hospital stay is 2 to 3 days after C-section. Recovery takes longer than the vaginal birth. Walk and physiotherapy can help to speed up the recovery after the C-section. Oral Pain medicines can also help ease discomfort[3].

Spinal analgesia is the basis of anesthesia in countries like Pakistan, India, and parts of Africa. According to the World Health Organization (WHO), cesarean sections are medically needed in about 10 to 15 percent of all births in western countries. The authentic percentage of Cesarean

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deliveries is generally higher, though. For instance, in Germany about 30% of children are delivered by Cesarean section. A total of 200 pregnant patients were surveyed: 17% Indian, 14% Chinese, 64.5% Malay and 4.5% others. About 77.5% of the surgeries were performed as emergency, where as 22.5% were conducted as elective[4].

Spinal and epidural anesthesia are injected in or around the spine. Patient stay awake during both of these types of anesthesia. Spinal anesthesia is mainly used for urinary tract, genital procedures, delivery, and surgery in the pelvis and legs[5].

There are some specific benefits of spinal and epidural anesthesia like better pain control than intravenous narcotics with lesser breathing causes and easier participation in physical therapy as it accelerates early ambulation[6].

Although spinal and epidural anesthesia are safe but some complications may occur such as anesthesia induced allergic reaction, severe head-ache, seizures, nerve damage, difficulty urinating, drop in blood pressure, meningitis or abscess, cervical pain, bleeding around the spinal column (hematoma), spinal headache, low back pain, nausea, numbness in lower limb and severe headache[7].

General anesthetics carry different risks such as aspiration of stomach contents. It can be life-threatening while loss of more blood is also very common. Decrease early ambulation is one of the disadvantage of GA[8,9].

Study was conducted with the aim to determine the frequency of spinal anesthesia as compare to general anesthesia in women for caesarean section (C-section) and the common conditions that lead to spinal anesthesia in addition to its common complications so that preventive measures can be taken and make data available for further researches.

METHODOLOGY

A cross sectional study was done, sample size was calculated by using WHO sample size calculator. 400 post caeserian women were selected. 400 post caesarian women by purposive sampling technique. The duration of study was 6 months from July 2016 to January 2017. The data was collected from various hospitals of district Rawalpindi Pakistan. Ethical approval was taken from ethical review committee of Riphah International University. Informed consents from the participants were taken before filling up each questionnaire. According to inclusion criteria, women 20 to 35 years of age who had gone through caesarean section under both epidural and general anesthesia were included in this study while women had procedures like epidural anesthesia for normal delivery and other modes of delivery like spontaneous vaginal delivery (SVD), Episiotomy (EPI), instrumental were excluded. A self structured questionnaire consisted of 15 closed ended questions was used to identify the frequency, indications and complications of spinal anesthesia for caesarean section. Analysis was done by using SPSS 21 version. Descriptive frequencies and percentages were assessed through it.

RESULTS

It was found that among 400 post caesarian patients observed, 315 (78.75%) were educated while 85 (21.25%) were uneducated, 149 (37.25%) belongs to outside of Rawalpindi 251 (62.75%) were resident over there. The mean age was 24.4 in years, patients with the complaint of incisional pain was 360 (90%), 8 (2%) with cough and 32 (8%) had no presenting chief complaint regarding their surgery. In the past history 108 (27.0%) had no surgical procedure while 292 (73.0%), had previous surgical procedures. 68 (17%) obese 76 (19%) normal 256 (64%) were overweight were calculated (table 1). Out of 400 caesarean patients 195 (48.8%) were emergency cases, 205 (51.3%) elective cases. As observed, spinal anesthesia was 277 (69.0%) patients reported it to be very common, while 123 (30.8%) said general anesthesia common in contrast to spinal anesthesia. Most common indications of C-section found were multiple previous C-section 108 (27.0%), fetal distress 9 4(23.5%), breech

position of fetus 45 (11.3%), cephalo-pelvic disproportion (CPD) 40 (10%), pregnancy induced hypertension (PIH) 31 (7.8%), gestational diabetes (GDM) 25 (6.3%), Twins/triplets 15 (3.8%), Cord prolapsed 10 (2.5%), oligohydramnios 8 (2.0%), Polyhydramnios 6 (1.5%), placenta previa 3 (0.8%) and age and Exercise was 0 (0%) only (fig-1). There was number of associated complications of spinal anesthesia but study showed most common complications as Low back pain 73 (18.3%), Spinal headache 14 (3.5%), Drop in blood pressure 31 (7.8%), Cervical pain 15 (3.8%), Nausea 17 (4.3%), Difficulty urinating 45 (11.3%), Severe headache 11 (2.8%), Numbness in lower limb 10 (2.5%), Hematoma formation 5 (1.3%), No Complication was reported by 172 (43.0%) (table-II).

Table-I: Frequencies of type of anesthesia, mode of delivery and co morbidities.

Type of anesthesia	Frequency	Percentage
Epidural anesthesia	277	69.2
General anesthesia	123	30.8
Mode of Delivery		
Emergency	195	48.8
Elective	205	51.2
Co Morbidities		
Diabetes	20	5.0
Anemia	125	31.2
Cardiac problems	3	0.8
HTN	54	13.5
No any co morbidities	198	49.5

Table-II: Complications of epidural anesthesia.

Complications of spinal anesthesia	Frequency	Percentage
Low back pain	73	18.3
Spinal headache	14	3.5
Drop in blood pressure	31	7.8
Cervical pain	15	3.8
Nausea	17	4.3
Difficulty urinating	45	11.3
Severe headache	11	2.8
Numbness in lower limb	10	2.3
Allergic reaction	1	0.3
Nerve damage	1	0.3
Abscess	1	0.3
Hematoma formation	5	1.3
Meningitis	1	0.3
Seizures	3	0.7
No Complication	172	43.0

DISCUSSION

The objective of current study was to identify the indications of C-section and complication of spinal anesthesia. A study was done by Betrán AP, Merialdi *et al.* published in 2007 to calculate the rates of caesarean section with spinal anesthesia in both developed and developing countries. Although results were very asymmetrically distributed, 15% of births worldwide occur by C-section. Latin America and the Caribbean had the highest rate (29.2%), however Africa had the lowest (3.5%). In developed countries, the percentage of caesarean births was 21.1% although in developed countries it was reported that only 2% of deliveries done by C-section. This study concerns about frequency of spinal anesthesia in contrast to general anesthesia and results shows that spinal anesthesia was most predominantly used during C-section as compare to general anesthesia in our population[10].

Cesarean section is one of the most frequently performed surgeries in obstetric practice. This study aims to know the altering trends in cesarean section proportions, fluctuating indications and the maternal & fetal outcome of cesarean deliveries. Total sample size was 200 cases of elective as well as emergency C-section. Results showed that commonest indication for emergency C-section was MSL (28%) followed by previous C-section (27%). Perinatal mortality was present in 15 neonates and out of them 12 emergency groups and 3 belonged to elective group. The commonest indication for elective cesarean section was previous cesarean section (42%) followed by previous 2LSCS (15%). While the recent study was conducted with the 400 total sample size in which 51.3% with emergency C-section and 48.7% were elective. Results showed that predominant indications were none other than multiple previous caesarian surgeries and fetal distress. Current study also reported that all kind of emergency conditions and planned

elective conditions were the common indications of C-section[11].

A study was done in 2016 in KPK Pakistan on indication of C-section with the total sample size of 859 in which 481 with vaginal delivery and 378 underwent C-section. In their study incidence of primigravida was 40.7%, multi-gravida 49.2% however grand multigravida were only 10.05%. The well-known indications were Repeated C-section 46.03% and fetal distress

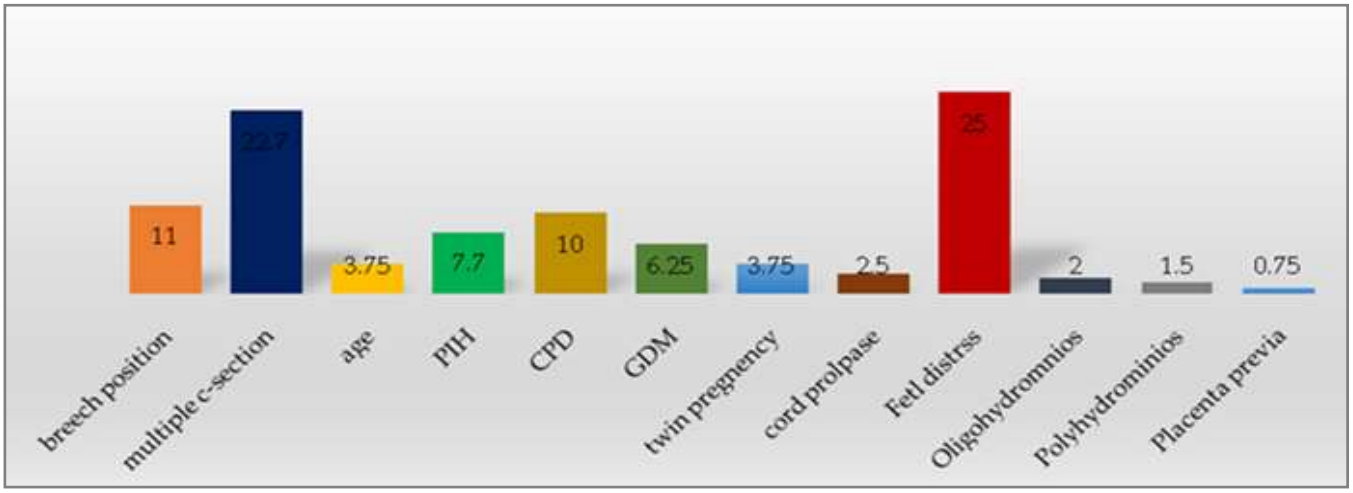

Figure: Common Indications for caesarean section.

15.07% patients. Similarly in current study total sample size was 400 post caesarian patients where as normal vaginal mode of delivery was excluded out of them primigravida were only 108 (27.0%) and multigravida were 292 (73.0%). Common conditions were multiple C-section 27.0%, fetal distress 23.5%, breech position of fetus 11.3%, cephalo-pelvic disproportion (CPD) 10% and rest of others were in trace amount recorded[12].

This study was done to determine the complication associated with spinal anesthesia regarding C-section and concluded that common complications were Low back pain, Spinal headache, decreased blood pressure, Cervical pain, Nausea, Difficulty urinating, Severe headache, Numbness in lower limb, Hematoma formation and others minute amount of complications. A study was done in 2016 by Heesen, Klimek *et.al.* With the predominant aim on the prevention of spinal anesthesia induced hypotension during C-section and this study also included all other type of complication regarding spinal anesthesia. Hypotension remains a frequent complication of spinal anesthesia, increasing the risk of nausea and vomiting, altered mental status, and aspiration[13]. Another study discussed the complication of pre-aclempsia in detail which is the most challenging and chief complaint at the time of delivery. Females with pre-aclempsia are more prone to critically significant hypotension. A study was done to asses high risk patients, who often have impaired placental function and a compromised fetus and to make this procedure more safe and convenient they study on vasopressor responses during spinal anesthesia[14,15]. This study also reported 54 (13.5%) women had preeclampsia in their pregnancies.

One study was done in 2016 to compare low backache after normal delivery and after caesarean section following spinal anesthesia and its persistent after pregnancy. They concluded that women who had caesarean section with spinal anesthesia had more chances to develop low back pain than with normal vaginal delivery. In this study same results were observed, female with spinal anesthesia had more suffered from low back pain after C-section[16].

Another meta-analysis was conducted in May/August 2015, by Belogolovsky, Inna PT, DPTc; Katz man, *et.al* Low back pain and pelvic girdle pain occur frequently during and after pregnancy, limiting life's quality, function and with a potential to lead to chronic pain and risk of disability that is long-term[17]. A team of doctors namely Guri Rortveit, *et al*. concluded in their study that the risk of having urinary incontinence was higher in women after having vaginal delivery than the women who have had cesarean section. Similarly this study also reported that difficulty in urination in post caesarian surgery was one of the most common complication[18].

CONCLUSION

Frequency of epidural anesthesia in C-section was greater as compare to general anesthesia. Multiple previous C-sections and fetal distress were found as most common conditions of C-sections.

Disclosure

Poster presentation was given in Second Interna-tional Conference on Rehabilitation Sciences, May 19-21 2017, Islamabad.

CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

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